

ligature (catgut) had been applied, one inch below the bifurcation, could be recognized by the touch as a transverse sulcus when the vessel was rolled between the fingers. There was no change at this point in the size of the artery. There was communication between the external and internal carotids at the bifurcation.

The subclavian artery was pervious in its first and second portions; its branches not recognizably dilated. It was entirely obliterated for a distance of half an inch in its third portion, its lumen was of full size on each side, the obliteration ending abruptly in a smooth rounded pouch. Apparently the artery had been completely divided by the ligature and its ends had separated by retraction. There was no clot on either side of the occluded part.

The common carotid was permanently occluded at the bifurcation by a white glistening membrane uniform in appearance and continuous with the inner coat of the artery.

The aorta was atheromatous, and slightly and irregularly dilated in its arch.

The heart was of normal size, the valves unaltered and sufficient.

The sternal end of the clavicle was thinned by absorption of half its thickness for an inch at its sternal end where it lay in contact with the apex of the aneurism.

The trachea presented just above its bifurcation a reddish, granular looking spot corresponding to the centre of the second shallow aneurismal sac.

ARTICLE XIII.

A CASE OF VESICO-VAGINAL FISTULA. By WALTER F. ATLEE, M.D.,
of Philadelphia.

THIS JOURNAL has among its original articles three of the most important, if not the three most important, contributions in surgical literature, to the cure of vesico-vaginal fistula. In the number for August, 1839, is the article of Hayward; in that for July, 1847, is that of Mettauer; and the number for January, 1852, contains the well-known article of J. Marion Sims. We know of no other beyond these of equal significance as pointing out for the first time what is needed to make successful the operation for the closure of the fistula, unless it be that of Gosset, contained in the *Lancet* for November 29, 1834.

In these articles are reported cases of complete cure of this once hopeless affection, with a detailed and reasoned account of the proper position of the patient in the operation, the necessary incisions to be made at the seat of lesion, the sutures to be used in closing the orifice, and of the after-treatment of the case.

Gosset placed his patient on her elbows and knees, vivified the edges of the fistula, made use of silver-gilt sutures, and left the patient on her face, with a gum catheter in the bladder. He says he reports his case

“to introduce to the notice of the profession the use of the gold wire, or rather silver-gilt wire suture.”

Mettauer's patients were placed and confined precisely as in the operation of lithotomy; two pretty broad spatulæ were used to dilate the vagina; the denuded surface was eight lines in width, and embraced the salient free border of the fistula, as well as the margin exterior to it on the vaginal surface. The suture was of lead, “because it could be tightened,” and was passed directly through the vesico-vaginal septum, so as to enter the bladder eight lines from the edge of the opening, and brought out in the same way on the opposite side. A short and exceedingly light tube of silver was introduced and held in the urethra. The ligatures were removed on the thirteenth day; the tube was used for four weeks.

Hayward placed his patients as in the operation for lithotomy. A bougie was passed through the urethra into the bladder, and then held so as to bring down and expose the fistulous opening. The whole circumference of the fistula was removed one line from the edge, and the membrane of the vagina was then dissected up from the bladder all around to the extent of three lines. This was done to increase the chance of reunion by having a larger surface, and also to prevent the carrying of the needles through the bladder. The needle was introduced one-third of an inch from the wound through the membrane of the vagina and the cellular membrane underneath, and brought out at the opposite side at about an equal distance. A catheter was left in for some days, and then introduced once or twice only every day for several weeks.

By dissecting up the membrane of the vagina *to a considerable extent around the orifice*, and carrying the needles through this membrane *at some distance from the edge of the wound*, Hayward made the most important improvement ever made in this operation. It is not a certain speculum, a peculiar position, the use of metallic sutures, and a self-retaining catheter, that make the operation successful; but it is this: that not only the edges of the fistula are vivified, but a raw surface is made to a considerable extent all around it, and that the opposite sides are then brought together over the fistulous orifice in such a way that the parts brought together are not left in the lowest part of the bladder, but the upper edge is pushed upward into the cavity of that organ. Position, sutures, specula, and ingeniously contrived instruments are of use only in proportion to their assisting in the carrying out of this principle. To vivify simply the edges of the fistula, parts so narrow and so inclined downwards that it is almost impossible to place them in such exact apposition as to prevent the urine filtering between the points of sutures, is so difficult that it did not succeed often, even in the hands of Jobert, whose dexterity I have witnessed, and believe to be unapproachable.

In the remarkable paper of Dr. Sims are described and figured in twenty-two wood-cuts many mechanical contrivances, “the slow work of

experiment," by which the surgeon is much assisted in the performance of this operation. He says: "The position of the patient for the operation, the speculum, the means of vivifying the edges of the fistulous opening, the suture apparatus, and the catheter, are, I believe, original with myself, having been suggested by the peculiarities of individual cases." All these things, although the invention of Dr. Sims for himself, were certainly suggested to the minds of others before his time, by the peculiarities of cases under their care, and brought to greater or less perfection in their practice, as can be seen in their communications to medical journals. He lays great stress upon a proper and free denudation of the fistulous orifice, and directs the sutures to be passed about one-half inch from the scarified edge of the fistule, pushed deeply into the vesical septum without transfixing it; brought out *just at the edge of the mucous lining of the bladder*; carried across the opening; made to enter the opposite side at a point corresponding with its direction anteriorly, observing the same precautions in its course, while it is brought out at the vaginal surface about half an inch beyond the scarified part. This figure (Fig. 1) is given in

Fig. 1.

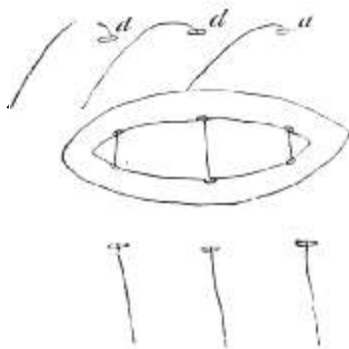
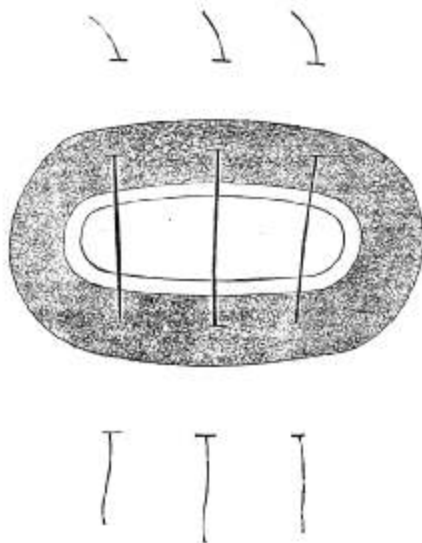


Fig. 2.



order to represent the situation of the sutures. For the purpose of vivifying the *edges of the fistule*, and of keeping these *edges* in contact, it is barely possible to improve upon the proceedings of Dr. Sims. A fistula can be cured, however, more certainly by carrying out more absolutely the principle first announced by Hayward.

If, in place of making the suture pass just at the edge of the mucous

lining of the bladder, it is made to pass at some distance from it, through a broad vivified surface made around the edge as is represented in Fig. 2, the connection with the bladder will be more certainly cut off, for there will be a contact of surfaces in place of edges, and there will be a crest projecting into the bladder in place of the depression in which the urine settles and finds its way along the sutures.

The history of the following case will show the correctness of these observations :—

Mrs. O'N., residing in Harmony Court, in this city, thirty years of age, tall, robust, and strongly built, was sent to me in October by her physician for relief, as a case of *fistula vesico-vaginalis*. She had been married for ten years; had six children, four of them still-born. With the first child she was two days and two nights in labour. After the birth of her fifth child she thought she had some kidney trouble, as her urine was always coming away, but she had never asked medical advice for this. In her sixth labour, August 17, the physician in attendance was astonished at the conduct of the opening in which his finger was passed, and which he never thought was other than the mouth of the womb. Fortunately passing the catheter into the bladder, the matter was explained to him. The patient was advised to wait for some weeks longer before submitting to an operation, and in the meanwhile to inject daily with water as hot as she could bear it. I operated upon this woman on the 1st of November, rather sooner after childbirth than is desirable when the choice of time is entirely our own. The perineum was torn to a considerable extent; the vagina was supple to the touch everywhere, and without scars or indurations; the mucous membrane was red, but without trace of ulceration; there was no excoriation externally; the fistula was situated in front of the neck of the womb, and seemed to be widest there. The extent of the opening was such that the first phalanx of my forefinger was surrounded by it; almost an inch in length, and three-eighths in width, the length being in the direction of the longitudinal axis of the vagina. The patient was full of courage, and willing to submit to anything so as to be freed from her disgusting infirmity.

The patient, having been previously prepared for the operation, as usual, by a purge, an enema, and strict diet, was placed on her back on a table, the knees drawn up against the belly, and the buttocks elevated by a hard, round bundle of bed clothing placed beneath them. This position is the most convenient one for these operations, unless the fistula be very near to the pubis, as the anæsthetic is more readily given; the blood does not flow into the bladder, and the fistula is not dragged further away. When the buttocks are well raised the upper wall of the vagina presents itself to the surgeon vertically or obliquely, rather than horizontally, and his operation is rendered thereby much easier. A small and very convenient lamp, invented by Collin, the successor of Charrière, was used to afford the necessary light. Sims's speculum was used to pull down the posterior wall of the vagina. There was little difficulty, using the ordinary instruments, in making the necessary *avivement*, which, as said above, was not on the edge of the fistula; but all around it, to a distance of one-third inch from this edge. Owing to the shape of the fistula, the sutures were passed from side to side, and in the manner above described. Five sutures, of silver wire, were used; the two sutures nearest to the womb were shotted, the other three were twisted and cut off.

After the operation nothing more was done than to regulate diet, to keep the patient on her back for ten days, and to keep the bowels quiet. No catheter was ever introduced, and she was allowed to urinate whenever and as she pleased. At the present day—November 23d—she goes about at her work perfectly well. The sutures are left, as they can do no harm, to the fistula at least, and the woman is strongly opposed to having them taken away.

By great skill in manipulation, by using most admirably contrived instruments, and by attention to minute details of treatment, these fistulae can be cured by paring the *edges* and holding them together; but it is far easier to cure them by doing as I have done, and carry out, with the aid of more recently invented instruments, the great principle fairly laid down by Hayward in this JOURNAL: "*Dissect up the membrane of the vagina to a considerable extent around the orifice, and carry the needles through this at some distance from the edge of the wound.*"

ARTICLE XIV.

A CASE OF PULSATING TUMOUR OF THE HEAD OF THE TIBIA, TREATED SUCCESSFULLY BY COMPRESSING THE FEMORAL ARTERY; SUBSEQUENT AMPUTATION THROUGH THE CONDYLES OF THE FEMUR. RECOVERY.
By J. D. SMITH, M.D., of Friendship, Crockett Co., Tenn.

I was called Aug. 19, 1880, in consultation, to see D. A. W., *æt.* 24, and graduate of the Medical Department of the University of Nashville, and obtained the following history. Some nine or ten years ago patient discovered a tender spot about half an inch in diameter just to the right of the lower portion of the tubercle of the tibia of the left leg, which soon became painful and was attended with swelling of contiguous soft parts. This was treated by rest and liniments and the patient was soon on his feet again. But the tender spot remained. The next four or five years were spent in the active duties of farm life and of school, followed by one year's service as clerk in a dry-goods store and subsequently reading medicine and attending medical lectures, graduation, etc. During all this time the tender spot remained, but gave no particular inconvenience until the spring of 1880, after the patient was through with his medical course and commenced the active duties of a country practitioner, when it began to be painful, and upon examination was found to be slightly protuberant. In a short time the little tumour began to pulsate slightly; but the patient, encouraged by flattering prospects in his profession, and ambitious to succeed, disregarded the early warnings of what was soon to become a serious malady, and continued to perform his arduous professional labours until about August 10th, when a severe attack of rheumatic fever supervened and prostrated him.

It was after this attack of rheumatic fever had existed for nine days that I was called in consultation with Dr. T. J. Rice, to diagnosticate the tumour under consideration. The patient was found with the usual symptoms of one convalescing from an attack of rheumatic fever including